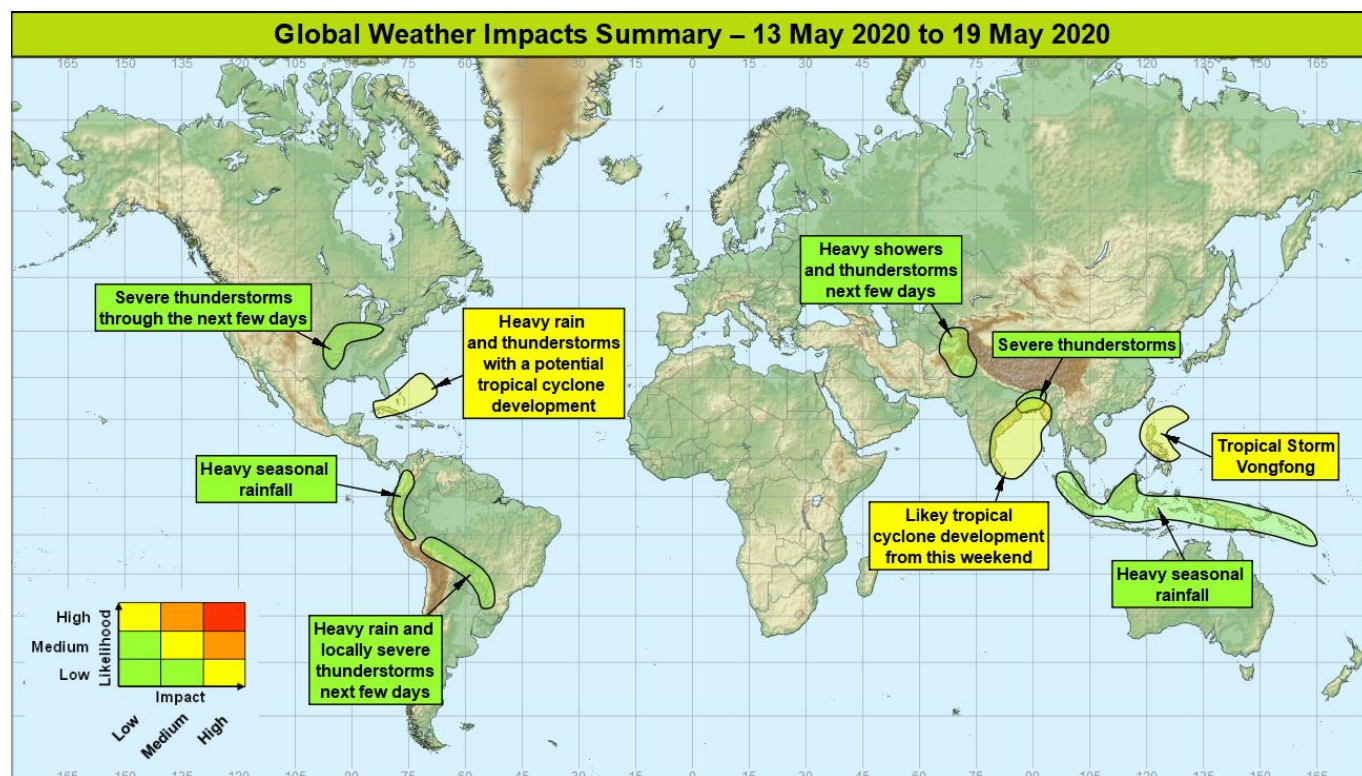


Global Weather Impacts – Wednesday 13th to Tuesday 19th May 2020

Issued on Wednesday 13th May 2020

HEADLINES

- The first tropical storm in the Northwest Pacific has now developed and been named 'Vongfong'.
- Heavy rain and thunderstorms across Cuba, the Bahamas, Florida Keys and surrounding areas.
- A significant tropical cyclone is likely to develop in the Bay of Bengal from this weekend.



DISCUSSION

Tropical Cyclones

Tropical Storm Vongfong (Northwest Pacific and the Philippines)

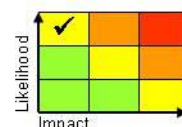
Weather

Tropical Storm Vongfong has now been named by the Tokyo RSMC and is the first named storm of the Pacific season. Vongfong was located 350km east of Tacloban (central Philippines) at 0300 UTC this morning with sustained winds of around 50 mph.

Vongfong is expected to track west or northwest to make landfall in the central Philippines on Thursday. Through Friday and Saturday Vongfong is expected to turn northwest or north and track across the northern Philippines, perhaps strengthening to become a typhoon (sustained winds of around 74 mph) for a time, before likely weakening and tracking northeast into the Northwest Pacific.

As well as very strong winds, Vongfong is likely to produce up to 300 mm of rain along the systems path through the rest of this week.

Discussion



This forecast may be amended at any time

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The tropical depression formerly known as '01W' close to the Philippines has now been named 'Vongfong' (or 'Ambo' locally in the Philippines) and is the first named system of the Pacific season.

There is some uncertainty over its further development, with the GFS much more interested in developing a more-significant feature for instance the GM, with a northwest the north track compared to the more southerly track of the GM.

The GFS track is much closer to the official track, and has support from other output. Therefore the GM evolution for Vongfong is not the preferred solution.

First principles would suggest that the ingredients are there for development through the next few days: High SSTs, High PW and low vertical shear.

Expected Impacts

Localised flash flooding for parts of the Philippines, with a small risk that Manilla could see a period of very heavy rainfall. Winds may be strong enough to cause some minor damage, with dangerous seas for marine transport likely.

The following area is being monitored for possible development:

Northeastern Indian Ocean (Bay of Bengal)

Weather

A cluster of thunderstorms moving slowly west across the Andaman and Nicobar Islands, will gradually move west into the southern Bay of Bengal and experience conditions marginally favourable for the development of a tropical cyclone later this week.

There is considerable uncertainty in the evolution of this system from the weekend, but it seems likely that this system will strengthen and move north or west to bring very heavy rainfall and very strong winds to parts of Sri Lanka and eastern India and / or southern Bangladesh next week.

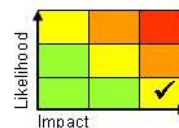
Discussion

A disturbance gradually moving west in this region is causing some loose organisation of thunderstorms in the area. As this area moves out into the central-southern Bay of Bengal it will experience very high SSTs (30-31°C), but only marginal favourable vertical windshear and upper level outflow at first.

However, from the weekend there is a strengthening model signal for the development of a significant tropical cyclone in the Bay of Bengal, producing a threat of significant impacts to land around the Bay. This is why the impact level has been increased. However, the wide range of tracks results in a low likelihood due to huge uncertainty in any likely landfall.

Expected Impacts

Until the start of the weekend the main impact will be to marine transport. However, there will be an increasing threat of flash flooding and wind damage to Sri Lanka and southeast India from later in the weekend, and then further north in eastern India and southern Bangladesh next week.



Florida Keys, northern Cuba and Bahamas

Weather

Areas of heavy rain and thunderstorms across this region are likely to remain frequent and slow moving through the rest of the week. As much as 150 mm could fall this week, with 50-100mm falling across a wide area. Although we are now coming towards the wet season, average rainfall in this region for the whole of May is 75 to 125 mm.

As this area of thunderstorms begins to track northeast across and north of the Bahamas there is the potential for the development of a weak subtropical storm. If/when a subtropical system does form it would be steered northeast into the open Atlantic.

Discussion



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A cold front progressed south into this region last weekend, and the baroclinic zone has now become slow moving (and will remain so through much of the coming week) – acting as the focus for the heaviest rainfall. Multiple subtle shortwave upper troughs in the sub-tropical jet will engage the moist frontal zone, leading to the generation of heavy rain, showers and thunderstorms on several days (Thursday at the moment looks like the peak). Forecast profiles show PWAT of around 60mm, with long and relatively skinny CAPE and deep warm cloud layer suggesting cells could be efficient precipitation producers. Reasonable vertical wind shear will allow for the development of organised long lasting MCS.

Conditions may become favourable for a subtropical storm to form in the far east of this region later in the week in associated with the arrival of a disrupting upper trough that is likely to steer any development out into the Atlantic. The NHC Miami have increased the likelihood of a subtropical storm development to 70% this morning.

Expected Impacts

Some flash (and for Cuba perhaps riverine) flooding looks possible. Some very localised impacts from lightning possible too.

Europe

Nil.

North America

Florida Keys – see *Tropical Cyclones section*

Central USA

Weather

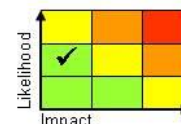
There is the potential for outbreak of severe thunderstorms across parts of Texas, Oklahoma and Kansas today (Wednesday), with this threat transferring east and northeast on Thursday. Storms will be capable of producing the full range of severe hazards from heavy rainfall, through to tornadoes.

Discussion

A zonal upper flow across the Rockies will induce a lee low across Colorado, which coupled with the strong anticyclone across the eastern USA, will induce a strong southerly return flow from the western Gulf of Mexico across the Great Plains. This will draw warm moist flow north with a strong low level jet developing. This air mass being capped by warm air and steep mid-level lapse rates advected in from the high terrain to the west. “Minor” short-wave upper troughs will be key to developing the deepest convection but, where it is released profile are conducive to all hazards that are associated with severe convection in this region.

Expected Impacts

Flash flooding likely in some location, with the risk of damage to utilities, property and disruption to transport from frequent lightning, large hail, strong winds and the odd tornado.



Central America and the Caribbean

Northern Cuba and the Bahamas – see *Tropical Cyclones section*

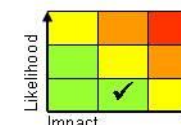
South America

Western Colombia, Ecuador, and Peru

Weather

Further heavy rainfall from widespread showers and thunderstorms will affect parts of this region at times through the next 7 days. Widespread rainfall of 50-100 mm is expected across much of this region, with up to 250 mm in a few places.

Discussion



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It appears that a strong subtropical high in the southeast Pacific (generating SW'ly winds in to the western Andes), and a unusually strong subtropical high in the north Atlantic (generating strong E'ly winds across the tropical Atlantic and then Amazon basin), will lead to great than average low level moisture convergence across the equatorial and northern Andes. This will result in more widespread and intense shower and thunderstorm activity than usual.

Expected Impacts

Further flash flood and landslides are likely within the mountainous terrain of the region.

Parts of southern Brazil, Paraguay, Bolivia and Peru

Weather

An area of heavy rain and thunderstorms will transfer north across this region through the next few days before easing at the end of this week. This event could bring up to 100-125 mm of rain in a short period.

Discussion

Zonal flow across the high Andes will induce a lee low which will draw a plume of tropical air southwards across this region. This will be engaged by an upper trough in the subtropical jet producing an active frontal zone bringing heavy rainfall with embedded thunderstorms. In the warm sector ahead of the cold front profiles suggest severe storms could form, bringing a range of very localised additional hazards

Expected Impacts

A risk of some localised flash flooding is the most probable impact, with the risk of damage to utilities, property and disruption to transport from frequent lightning, large hail, strong winds and the odd tornado.



Africa

Nil.

Middle East

Nil, but see additional information.

Asia

Philippines, Sri Lanka, India and Bangladesh – see Tropical Cyclones section

Eastern Afghanistan, northern Pakistan, Tajikistan, Kyrgyzstan and southern Uzbekistan

Weather

Heavy showers and thunderstorms are expected to affect this region through the next few days, with much less significant activity from Friday.

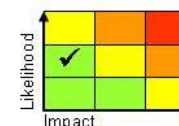
Locally 30-75 mm of precipitation could fall, with this being roughly twice the average May rainfall. Across Pakistan there is also the potential for strong winds related to these storms lifting dense dust plumes.

Discussion

A cyclonic upper pattern will produce forcing that will engage the warming plume across this region to produce a range of storm modes. Large CAPE storms are possible, which would produce a large hail threat, but skinny CAPE storms are also possible which would produce flash flooding rainfall. The further southeast you go the higher the cloud bases will likely be, producing a higher likelihood of very strong wind gusts that could lift dense dust storms across dry ground.

From Friday the warm plume will move away southeastwards, becoming detached from the continued cyclonic upper pattern, and so the thunderstorms will become less widespread and less intense,

Expected Impacts



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Flash flooding and landslides in mountainous regions are most likely impacts. Across Pakistan storms may bring locally very strong wind gusts are able to damage utilities and property, and disrupt travel with poor air quality where lifted dust.

Western Bangladesh and northeast India

Weather

Severe thunderstorms look likely to affect this region this week producing up to 50-75 mm of rain in a short duration, with the threat of large hail, frequent lightning, strong winds and even an isolated tornadoes.

Discussion

A series of shortwave upper troughs in the subtropical jet will transfer east across the region next week, engaging the warm plume low level plume drawn north from the Bay of Bengal. Forecast profiles across Bangladesh show large CAPE (approaching 5000 J/Kg), strong wind shear, and low Lifting Condensation Levels (LCL) supporting supercell storms capable of producing tornadoes. Across northeast India, a higher LCL will reduce the risk of heavy precipitation (and tornadoes close to nil) but increase the risk of strong wind gusts here.

Expected Impacts

Flash flooding is the most likely impact, but with a threat of hail and lightning damage to utilities and infrastructure and a lower likelihood localised strong wind or tornado damage.



Parts of Indonesia, Papua New Guinea and the Solomon Islands

Weather

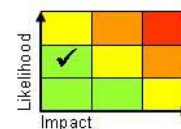
Heavier than average rainfall looks likely through the coming week in parts of this region due to more widespread and intense thunderstorms than usual. Up to 150-250 mm of rain could fall in places, with some parts of this region seeing the average May rainfall within a week.

Discussion

Despite no active MJO in the region, precipitation anomalies across a fairly wide area are signalled to be above average this week. This is felt likely to be tied to the above average SSTs surrounding the region in the eastern Indian Ocean, South China Sea, and western tropical Pacific. In addition the northeast monsoon flow still continues across the South China Sea initially (although this is forecast to cease later this week), likely bring aided by the tropical storm (Vongfong) crossing the Philippines. This monsoon flow will over the next few days will continue to reduce convection across the Indochina Peninsula and enhance low level convergence and convection across the west of this highlighted region.

Expected Impacts

High than usual likelihood of flash flooding and landslides.



Australasia

Papua New Guinea and the Solomon Islands – see Asia section

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Additional Information:

- **A late-season polar-continental outbreak** across eastern parts of North America is easing, with temperatures gradually returning to near normal values in the coming days.
- **A late-season cold outbreak** continues for much of northern Europe. Some locally low overnight temperatures and frost could cause damage and losses to crops and fruit, but here – temperatures should slowly recover during the rest of this week and weekend.
- **The heatwave is expected to ease in Viet Nam by this weekend, but continue for much of Laos, Cambodia, Thailand and Myanmar.** Maximum temperatures will widely reach the mid-30s°C and could exceed 40°C in places. Pre-monsoon heatwaves are not uncommon at this time of year, but this could potentially be more intense and widespread than usual.
- **A heatwave is expected to continue across parts of North Africa, the Levant and southern Europe** (from Italy eastwards) through the next week, with temperatures rising to more than 10°C above average. It is possible that this heatwave could last until early next week and result in some early season heat stress impacts.
- **Shower activity across western Yemen looks light** and isolated through the 7 day period, resulting in a mostly dry picture.
- **Cox's Bazar in the southeast of Bangladesh looks like remaining mostly dry**, certainly drier than the west of the country, with just a few showers through the next 7 days. Beyond 7 days there is a greater risk of heavy rainfall due to an increased likelihood of a tropical cyclone developing in the Bay of Bengal.

Issued at: 130705UTC**Meteorologists:** Chris Almond / Paul Hutcheon**Global Guidance Unit**

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